

We claim:

- 1 1. A method of transmitting data comprising the steps of:
2 channel coding an encoder packet to produce a channel coded encoder packet;
3 and
4 puncturing and/or repeating the channel coded encoder packet to produce a first
5 encoder sub-packet having a first size based on a size of the encoder packet and a first
6 data transmission rate at which the first encoder sub-packet is to be transmitted.
- 1 2. The method of claim 1, wherein the first data transmission rate is based on first channel
2 conditions measured at a receiver to which the first encoder sub-packet is intended.
- 1 3. The method of claim 1, wherein the first encoder sub-packet has a format which allows
2 the first encoder sub-packet to be soft combined with a second encoder sub-packet
3 derived from the same encoder packet as the first encoder sub-packet.
- 1 4. The method of claim 3, wherein the first encoder sub-packet is of a different size than the
2 second encoder sub-packet.
- 1 5. The method of claim 3, wherein the first encoder sub-packet is of an identical size than
2 the second encoder sub-packet.
- 1 6. The method of claim 1 comprising the additional step of:
2 adding a first encoder packet size identifier to the first encoder sub-packet
3 indicating the size of the encoder packet from which the first encoder sub-packet was
4 derived.
- 1 7. The method of claim 6 comprising the additional step of:
2 transmitting the first encoder sub-packet with the first encoder packet size
3 identifier at the first data transmission rate.
- 1 8. The method of claim 7, wherein the first encoder sub-packet with the first encoder packet
2 size identifier is modulated using a modulation scheme based on the first data
3 transmission rate.

1 9. The method of claim 7 comprising the additional step of:
2 prior to the step of transmitting the first encoder sub-packet, transmitting a rate
3 indication message to a receiver to which the first encoder sub-packet is intended
4 indicating the first data transmission rate.

1 10. The method of claim 1 comprising the additional step of:
2 adding an encoder sub-packet format identifier to the first encoder sub-packet
3 indicating a first format of the first encoder sub-packet.

1 11. The method of claim 10 comprising the additional step of:
2 transmitting the first encoder sub-packet with the first encoder sub-packet format
3 identifier at the first data transmission rate.

1 12. The method of claim 11, wherein the first encoder sub-packet with the first encoder sub-
2 packet format identifier is modulated using a modulation scheme based on the first data
3 transmission rate.

1 13. The method of claim 11 comprising the additional step of:
2 prior to the step of transmitting the encoder sub-packet, transmitting a first rate
3 indication message to a receiver to which the first encoder sub-packet is intended
4 indicating the first data transmission rate.

1 14. The method of claim 1 comprising the additional step of:
2 prior to the step of puncturing and/or repeating the channel coded encoder
3 packet, receiving a first rate indication message from a receiver to which the encoder
4 packet is intended indicating a data rate based on first channel conditions measured at the
5 receiver.

1 15. The method of claim 14 comprising the additional step of:
2 determining the first data transmission rate using the data rate indicated in the
3 first rate indication message.

1 16. The method of claim 15 comprising the additional step of:

2 transmitting a new rate message to the intended receiver indicating the first data
3 transmission rate.

1 17. The method of claim 1 comprising the additional steps of:

2 receiving a NACK message indicating that a transmission of the encoder sub-
3 packet was not successfully received at a receiver to which the first encoder sub-packet
4 was intended; and

5 puncturing and/or repeating the channel coded encoder packet to produce a
6 second encoder sub-packet having a second size based on a size of the encoder packet
7 and a second data transmission rate at which the second encoder sub-packet is to be
8 transmitted.

1 18. A method of receiving a data transmission comprising the steps of:

2 receiving at a receiver a message indicating a first data transmission rate;
3 receiving a first encoder sub-packet with a first encoder packet size identifier
4 indicating a size of the first encoder sub-packet; and
5 decoding the first encoder sub-packet using the first encoder packet size
6 identifier and the first data transmission rate.

1 19. The method of claim 18 comprising the additional step of:

2 transmitting a negative acknowledgement message and a rate indication message
3 if the first encoder sub-packet can not be successfully decoded, wherein the rate
4 indication message indicates current channel conditions at the receiver.

1 20. The method of claim 19, comprising the additional steps of:

2 receiving a message indicating a second data transmission rate;
3 receiving a second encoder sub-packet with a second encoder packet size
4 identifier indicating a size of the second encoder sub-packet; and
5 decoding the second encoder sub-packet using the second data transmission rate,
6 the second encoder packet size identifier and the first encoder sub-packet.

1 21. A method of receiving a data transmission comprising the steps of:

2 receiving at a receiver a message indicating a first data transmission rate;

3 receiving a first encoder sub-packet with a first encoder sub-packet format
4 identifier indicating a format of the first encoder sub-packet; and
5 decoding the first encoder sub-packet using the first encoder sub-packet format
6 identifier and the first data transmission rate.

1 22. The method of claim 21 comprising the additional step of:
2 transmitting a negative acknowledgement message and a rate indication message
3 if the first encoder sub-packet can not be successfully decoded, wherein the rate
4 indication message indicates current channel conditions at the receiver.

1 23. The method of claim 22, comprising the additional steps of:
2 receiving a message indicating a second data transmission rate;
3 receiving a second encoder sub-packet with a second encoder sub-packet format
4 identifier encoder sub-packet indicating a format of the second encoder sub-packet; and
5 decoding the second encoder sub-packet using the second data transmission rate,
6 the second encoder sub-packet format identifier and the first encoder sub-packet.